

CURRICULUM VITAE

JOHN JAY VANDENBERG

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Personal Matters / Ex. 6

CURRENT POSITIONS

Director, Research Triangle Park Division (2008 - present)

National Center for Environmental Assessment

Office of Research and Development (B243-01)

U.S. Environmental Protection Agency, Research Triangle Park, NC USA 27711

Supervisor: Mary Ross, (703) 347-0181

Responsible to plan, direct, organize, coordinate and communicate the efforts of the Research Triangle Park Division of the National Center for Environmental Assessment. Responsible for defining goals, developing program plans, establishing operating policies, priorities and procedures, evaluating progress and providing direction and guidance to a multidisciplinary staff particularly with regard to human health and ecological assessment of air pollutants. Responsible for directing preparation and communication of assessments used in environmental policy making including Integrated Science Assessments for the major air pollutants and Integrated Risk Information System assessments for hazardous pollutants. Responsible to prioritize and support development of new methodologies and models used in health and environmental risk assessments, and to publish original research, with a focus on research related to assessment of air pollutants. Represents EPA before the Clean Air Scientific Advisory Committee and other committees of EPA's Science Advisory Board, to the National Academy of Sciences and Congress as designated by the Administrator or Assistant Administrator, and to conferences and meetings of national and international significance. The division is comprised of approximately 38 federal staff with support by about 25 fellows, students and senior environmental employment program on-site staff.

National Program Director, Human Health Risk Assessment Program

(2013 – 2017)

National Center for Environmental Assessment

Office of Research and Development (B243-01)

U.S. Environmental Protection Agency, Research Triangle Park, NC USA 27711

Supervisor: Ken Olden

National Program Director for the Human Health Risk Assessment (HHRA) program. The duties include oversight of strategic planning and budgeting for the exceptionally high visibility Integrated Science Assessments and Integrated Risk Information System (IRIS) programs, for the Provisional Peer-Reviewed Toxicity Value program that supports the Office of Land and Emergency Management and other community support

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activities, for the development of new approaches to hazard identification, dose-response assessment and science information management, and for risk assessment training; providing expert scientific leadership and direction for scientific and technical matters in the HHRA research program portfolio; and serving as the primary liaison among EPA Office of Research and Development and EPA program offices, regions and external stakeholder community for the collection, analysis, validation and prioritization of research needs.

Adjunct Professor (2000- present)

Adjunct Assistant Professor (1992-2000)

Nicholas School of the Environment, Duke University, Durham, NC 27708

Supervisor: Dean William Chameides, (919) 613-8004

Responsible for developing and teaching a graduate-level Air Quality Management course (ENV 235/535) annually to ~32 students (1992- 2014); (ENV 603, 2016-) and graduate student advising. Responsible for developing and co-teaching a 3-hour semester long graduate-level Human Health and Ecological Risk Assessment course (ENV 239) annually to 35-40 students (1996-1999).

Adjunct Professor (2017- present)

Duke-Kunshan University, Kunshan, China.

Responsible for student mentoring and activities related to air quality management studies. Development of course materials (Air Quality Management) currently underway.

Science Advisory Board Member

North Carolina Secretaries' Science Advisory Board.

North Carolina Department of Environmental Quality (DEQ) and Department of Health and Human Services (DHHS). Appointed by Governor Roy Cooper 2017.

Responsible for advising DEQ and DHHS on health risk assessment of priority environmental contaminants, identification of contaminants of emerging concern, and recommendations for establishing contaminant standards, among other duties.

EDUCATION

Ph.D., Biophysical Ecology, Duke University, Durham, NC (1987). Research targeted to develop and evaluate new methods for sulfur-containing aerosol generation and dry deposition of particulate matter air pollution.

M.S., Biophysical Ecology, Duke University, Durham, NC (1982)

B.A., Biology, The College of Wooster, Wooster, OH (1978)

PREVIOUS POSITIONS

Associate Director for Health (2003 - 2008)

National Center for Environmental Assessment

Office of Research and Development

U.S. Environmental Protection Agency, Washington, DC USA

Supervisor: Dr. Peter Preuss, (703) 347-8600

Responsible for scientific leadership of EPA's comprehensive health risk assessment program; this program improves risk assessment methods and assessment products utilized by EPA regulatory programs, Regions, state and local agencies, industry and public health organizations. Leads program development including creation of long and short-term goals to meet the mission-oriented assessment needs of the EPA in the areas of: air, drinking water, pesticides and toxic substances, and endocrine disruption. This program also improves the effective utilization of scientific information in health risk assessment. Closely coordinates with key partners, including other laboratories and centers in EPA's Office of Research and Development, client regulatory program offices, and other Federal agencies. Represents the National Center for Environmental Assessment (NCEA) on various senior level committees and workgroups and presents the program to EPA and non-EPA audiences including White House-level staff and international organizations. Responsible for technical and science-policy integrity of all health-related work products of approximately 140 EPA scientists and support staff. Exercises personnel and line management responsibilities over a staff of approximately 26 FTE including the Integrated Risk Information System staff and two Special Assistants.

Director (Acting), Human Studies Division (2002 - 2003)

National Health and Environmental Effects Research Laboratory (MD-58)

Office of Research and Development

U.S. Environmental Protection Agency, Research Triangle Park, NC 27711 USA

Supervisor: Dr. Harold Zenick, (919) 541-2283

Responsible for scientific and managerial leadership of a comprehensive health research program utilizing clinical research, epidemiology and in vitro approaches to describe and understand the role of environmental agents on public health. Leads program development to meet the mission-oriented research needs of the EPA in the areas of air pollution, drinking water, pesticides and toxic substances, and endocrine disruption and to improve the scientific basis for health risk assessment. Closely coordinates with key partners, including other divisions in EPA's Office of Research and Development, client regulatory program offices, and other Federal agencies and organizations. Represents the organization on various senior level committees and workgroups and presents the program to EPA and non-EPA audiences. Develops and manages budget in excess of \$10 million and related human resources and assures the scientific and technical integrity of all work products. Exercises personnel management responsibilities over subordinate managers and other staff members in the division of 58 federal FTE and provides oversight of an additional 20 student and post-doctoral trainees. Responsible for assuring

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that research involving human subjects and communities meets the highest ethical standards. Represents the EPA in interactions with the on-site University of North Carolina Center for Environmental Medicine, Asthma, and Lung Biology.

Director (Acting), Experimental Toxicology Division (2001 - 2002)
National Health and Environmental Effects Research Laboratory (MD-66)
Office of Research and Development
U.S. Environmental Protection Agency, Research Triangle Park, NC 27711 USA
Supervisor: Dr. Harold Zenick, (919) 541-2283

Responsible for scientific and managerial leadership of a comprehensive health research program encompassing pulmonary toxicology, immunotoxicology and pharmacokinetics focused on understanding and describing the fate, disposition and health consequences of chemicals in the body and ultimately developing quantitative models for extrapolation/prediction in the context of the Agency's risk assessment activities. Leads program development to meet the mission-oriented experimental toxicology research needs of the EPA in the areas of air pollution, drinking water, pesticides and toxic substances, and endocrine disruption and to improve the scientific basis for health risk assessment. Closely coordinates with key partners, including other divisions in EPA's Office of Research and Development, client regulatory program offices, and other Federal agencies and organizations. Represents the organization on various senior level committees and workgroups and presents the program to EPA and non-EPA audiences. Develops and manages budget in excess of \$10 million and related human resources and assures the scientific and technical integrity of all work products. Exercises personnel management responsibilities over subordinate managers and other staff members in the division of 79 federal FTE and provides oversight of an additional 25 student and post-doctoral trainees.

National Research Program Director for Particulate Matter (1999- 2001)
National Health and Environmental Effects Research Laboratory
Office of Research and Development
U.S. Environmental Protection Agency, Research Triangle Park, NC 27711 USA
Supervisor: Dr. Robert Dyer, (919) 541-2760

Responsible for strategic planning and implementation of EPA's \$65 million, 200 FTE program of research to improve the scientific basis for regulation of airborne particulate matter. Responsible for providing leadership and coordinating research among multidisciplinary research laboratories, centers and divisions and communicating plans and activities with external organizations including Congress, the National Research Council, other federal agencies, and several independent scientific and management review committees. Charged with identifying emerging issues, developing new initiatives, and providing leadership in developing new approaches for addressing research priorities for particulate matter. Provides technical consultation on particulate matter research to EPA, State and international groups.

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Assistant Director for Air Research (1996-2000)

National Health and Environmental Effects Research Laboratory
Office of Research and Development
U.S. Environmental Protection Agency, Research Triangle Park, NC 27711 USA
Supervisor: Dr. Robert Dyer, (919) 541-2760

Responsible for scientific leadership and strategic planning of research to improve the scientific basis for human health and ecological risk assessment of air pollutants, including particulate matter, hazardous air pollutants and tropospheric ozone. Working as part of a multi-laboratory planning team, was responsible for coordinating nearly \$90 million of research efforts among multidisciplinary research divisions and communicating and coordinating research with external organizations. Charged with identifying emerging issues, developing new initiatives, and providing leadership in developing new approaches for addressing air quality problems. Technical consultation on air quality issues and risk assessment to EPA, State and international groups.

Associate Director for Multimedia Research (1993-1996)

Health Effects Research Laboratory
Office of Research and Development
U.S. Environmental Protection Agency, Research Triangle Park, NC 27711 USA
Supervisor: Dr. Harold Zenick, (919) 541-2283

Responsible for scientific leadership and strategic planning of research to improve the scientific basis for risk assessments including human health risk assessments, and ecological risks associated with global climate change. Working as part of a multi-laboratory planning team, responsible for coordinating over \$100 million of research efforts among multidisciplinary research divisions and communicating and coordinating research with external organizations. Charged with identifying emerging issues, developing new initiatives, and providing leadership in developing new approaches for improving human and ecological risk assessments.

Director, Research to Improve Health Risk Assessments Program (1991-1993)

Health Effects Research Laboratory
Office of Research and Development
U.S. Environmental Protection Agency, Research Triangle Park, NC 27711 USA
Supervisor: Dr. Harold Zenick, (919) 541-2283

Responsible for scientific leadership and strategic planning and implementation of a \$7 million cross-laboratory research program targeted to improve the scientific basis for health risk assessments. This Congressionally-mandated program addressed critical uncertainties in human exposure assessment and dose-response assessment and provided fundamental research targeted to develop and evaluate physiologically-based pharmacokinetic models and biologically-based dose-response models. Responsible for developing and implementing new research management approaches to achieve cross-organizational coordination. Responsible for program representation and evaluation by

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external review groups including the Office of Technology Assessment and EPA's Science Advisory Board.

Environmental Scientist

Reproductive and Cancer Hazard Assessment Section
California Department of Health Services, Berkeley CA, on detail from EPA
(1988-1989; on Intergovernmental Personnel Act detail from EPA)
Supervisor: Dr. Lauren Zeise

Responsible for drafting guidelines for reproductive health risk assessments for the State of California, evaluating chemicals for listing under Proposition 65, and original research to compare alternative approaches to estimate risks to male reproductive health.

Environmental Scientist (1988-1991)

Environmental Protection Specialist (1984-1988)

Pollutant Assessment Branch
Office of Air Quality Planning and Standards, U.S. EPA, Research Triangle Park, NC (1984-1991)

Responsible for evaluation of hazardous air pollutants for regulatory action under the Clean Air Act, and provided leadership of the National Air Toxics Information Clearinghouse including coordination with State and local air quality agencies.

Teacher-Naturalist (1978-1980)

Woodland Altars Environmental Education Center
Peebles, OH

Responsible for developing and presenting innovative environmental education programs to grade school through high school age students during their 3 to 5 day stay at the residential Center.

AWARDS AND RECOGNITION

Elected Fellow, Society for Risk Analysis, 2006.

Statesmanship Award, Office of Research and Development, U.S. EPA. 2012. This is ORD's most prestigious award which is given annually to an ORD employee who has demonstrated an exceptional commitment to quality service, support, diplomacy, and achievement in their interactions with our customers.

Bronze Medal for Exceptional/Outstanding ORD Technical Assistance to the Regions or Program Offices as a member of the Ozone NAAQS Regulatory Support Team, Office of Research and Development, U.S. EPA, 2016

Bronze Medals for Commendable Service, Office of Research and Development, U.S. EPA, 2015, 2016, 2017.

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Bronze Medal for Commendable Service, Office of Research and Development, U.S. EPA, for Innovation in Science Assessment Team, 2014.

Bronze Medal for Commendable Service, Office of Research and Development, U.S. EPA, for Forging International Partnerships for Advancing EPA's Mission of Protecting Human Health and the Environment, 2014.

Bronze Medal for Commendable Service, Office of Research and Development, U.S. EPA, for IRIS Outreach Team activities to strengthen EPA's human health assessment program through engagement of EPA's Programs and Regions and the public in the IRIS assessment development process, 2013.

Bronze Medal for Commendable Service, Office of Research and Development, U.S. EPA, for contributions to the planning and implementation of the Human Health Risk Assessment program, 2012.

Bronze Medal for Commendable Service, Office of Research and Development, U.S. EPA, for contributions to the Health and Environmental Research Online (HERO) Team, 2011

ORD Environmental Justice Award, Office of Research and Development, U.S. EPA, for contributions to the Environmental Justice Symposium Team, 2011

Recognition Award for ORD Response to Gulf Oil Spill, March 2011.

Bronze Medal for Commendable Service, Office of Research and Development, U.S. EPA, for contributions to the Integrated Science Assessment Team, 2010

Bronze Medal for Commendable Service, Office of Research and Development, U.S. EPA, for contributions to the completion of EPA's air quality criteria for ozone and air quality criteria for lead, 2008

Bronze Medal for Commendable Service, Office of Research and Development, U.S. EPA, for contributions to the Particulate Matter Accomplishments Report, 2004.

Bronze Medal for Commendable Service, Office of Research and Development, U.S. EPA, for initiative in strategic research planning, 1997

Bronze Medal for Commendable Service, Office of Research and Development, U.S. EPA, for scientific support of chemical hazard ranking, 1992

Bronze Medal for Commendable Service, Office of Air Quality Planning and Standards, U.S. EPA, for continued development and implementation of the National Air Toxics Information Clearinghouse, 1992

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Bronze Medal for Commendable Service, Office of Air Quality Planning and Standards, U.S. EPA, for development and implementation of the National Air Toxics Information Clearinghouse, 1992

Bronze Medal for Commendable Service, Office of Air Quality Planning and Standards, U.S. EPA, for air toxics regulatory decision support, 1985

Numerous performance awards and letters of appreciation, 1984-2012.

SELECTED PUBLICATIONS

Cote, Ila L., Shaun D. McCullough, Ronald H. Hines, John J. Vandenberg, Application of epigenetic data in human health risk assessment. *Current Opinion in Toxicology* 6: 71-78 (2017). <https://doi.org/10.1016/j.cotox.2017.09.002>

Cote, Ila, John Vandenberg, Ingrid Druwe and Michelle Angrish. Incorporating epigenomics into a risk assessment framework. *Epigenetic Toxicology: Core Principles and Applications*. S. McCullough and D. Dolonoy (eds). Elsevier (accepted; 2018)

Abigail R. McEwen, Heileen Hsu-Kim, Nicholas A. Robins, Nicole A. Hagan, Susan Halabi, Olivo Barras, Daniel deB. Richter, John J. Vandenberg, Residential metal contamination and potential health risks of exposure in adobe brick houses in Potosí, Bolivia. *Sci of Total Environ* 562: 237-246 (2016)
<http://dx.doi.org/10.1016/j.scitotenv.2016.03.152>

Ila Cote, Melvin E. Andersen, Gerald T. Ankley, Stanley Barone, Linda S. Birnbaum, ... John J. Vandenberg et al., The Next Generation of Risk Assessment Multiyear Study—Highlights of Findings, Applications to Risk Assessment and Future Directions. *Environ Health Perspect*; 2016, DOI:10.1289/EHP233

Hagan N, Robins N, Hsu-Kim H, Halabi S, Espinoza Gonzales RD, et al. (2013) Residential Mercury Contamination in Adobe Brick Homes in Huancavelica, Peru. *PLoS ONE* 8(9): e75179. doi:10.1371/journal.pone.0075179

Gift JS, Caldwell JC, Jinot J, Evans MV, Cote I, Vandenberg JJ. (2013). Scientific considerations for evaluating cancer bioassays conducted by the Ramazzini Institute. *Environ Health Perspect* 121:1253–1263; <http://dx.doi.org/10.1289/ehp.1306661>

Dewoskin RS, Sweeney LM, Teeguarden JG, Sams R 2nd, Vandenberg J. Comparison of PBTK model and biomarker based estimates of the internal dosimetry of acrylamide. *Food Chem Toxicol.* 2013 May 21;58C:506-521. doi: 10.1016/j.fct.2013.05.008. PMID: 23707562

Vandenberg, J.J. Hazardous Air Pollutants: Approaches and Challenges in Identifying Assessment Priorities. *In* *Air Pollution and Cancer*. IARC Scientific Publication No 161.

International Agency for Research on Cancer, Lyon, France (2013) (epub <http://www.iarc.fr/en/publications/list/sp/spub.php>).

Robins, N., N. Hagan, S. Halabi, H. Hsu-Kim, R.D. Espinoza Gonzales, M. Morris, G. Woodall, D. Richter, P. Heine, T. Zhang, A. Bacon, and J. Vandenberg. Estimations of Historical Atmospheric Mercury Concentrations from Mercury Refining and Present-Day Soil Concentrations of Total Mercury in Huancavelica Peru. *Science of the Total Environment*. 426: 146-154. June 2012.

Hagan, N., N. Robins, H. Hsu-Kim, T. Zhang, M. Morris, G. Woodall, S. Halabi, A. Bacon, D. Richter, and J. Vandenberg. Estimating Historical Atmospheric Mercury Concentrations from Silver Mining and their Legacies in Present-Day Soils in Potosi, Bolivia. *Atmospheric Environment*. 45(40): 7619-7626. December 2011.

Gwinn MR; Craig J; Axelrad DA; Cook R; Dockins C; Fann N; Fegley R; Guinnup DE; Helfand G; Hubbell B; Mazur SL; Palma T; Smith RL; Vandenberg J; Sonawane B. Meeting report: Estimating the benefits of reducing hazardous air pollutants--summary of 2009 workshop and future considerations. *Environ Health Perspect*. 2011 Jan; 119(1):125-30.

Murnyak, George, J.J.Vandenberg, P.J. Yaroschak, K. Prabhakaran, J. Hinz (2011) Emerging Contaminants: presentations at the 2009 Toxicology and Risk Assessment Conference. *Toxicology and Applied Pharmacology* 254 (2011) 167-169.

Zhang, Luoping, L.E. Freeman, J. Nakamura, S.S. Hecht, J.J. Vandenberg, M.T. Smith, B.R. Sonawane. (2010). Formaldehyde and leukemia: Epidemiology, potential mechanisms, and implications for risk assessment. *Environmental and Molecular Mutagenesis* 51: 181-191.

Cote, I.L., J. Samet and J.J. Vandenberg. (2008) U.S. Air Quality Management; local, regional and global approaches. *J Toxicol Environ Health* 71(1): 63-73.

TJ Woodruff, L Zeise, DA Axelrad, KZ Guyton, S Janssen, M Miller, GG Miller, JM Schwartz, G Alexeeff, H Anderson, L Birnbaum, F Bois, VJ Coglian, K Crofton, SY Euling, PMD Foster, DR Germolec, E Gray, DB Hattis, AD Kyle, RW Luebke, MI Luster, C Portier, DC Rice, G Solomon, JJ Vandenberg, RT Zoeller. (2008). Moving Upstream: Evaluating Adverse Upstream Endpoints for Improved Risk Assessment and Decision-Making. *Environ Health Perspect* 116 (11): 1568-75.

Nadadur, S.S., Miller, A., Hopke, P.K., Gordon, T., Vedal, S., Vandenberg J.J., and D. L. Costa. (2007) The Complexities of Air Pollution Regulation: the Need for an Integrated Research and Regulatory Perspective. *Toxicol Sci* 100(2): 318-28.

Preuss, P. W.; Vandenberg, J. J.; Tuxen, L.; Cote, I. L. (2007) Risk assessment at the USEPA: the science behind the assessments. *Hum. Ecol. Risk Assess*. 13: 41-45.

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Krzyzanowski, M.; Vandenberg, J.; Stieb, D. (2005) Perspectives on air quality policy issues in Europe and North America. *J. Toxicol. Environ. Health Part A* 65(13/14):1057-62.

Vandenberg, J. J. (2005) The role of air quality management programs in improving public health: a brief synopsis. *J. Allergy Clin. Immunol.* 115: 334-336.

Whalan, J.E., G.L. Foureman, and J.J. Vandenberg. Inhalation risk assessment at the Environmental Protection Agency. In: *Inhalation Toxicology, Part I: Inhalation Toxicology Methods and Measurements* (pages 4-35). 2005.

Vandenberg, J.J. and W. F. Boyes. Exposure domains: role of timing, pattern and magnitude of exposure on health risks. *Proceedings: Joint WHO-JRC-ECA Workshop on Role of Human Exposure Assessment in Air Quality Management*. Bonn, Germany, EUR 21052. M. Krzyzanowski, J. Jantunen, A. Bartonova, L. Oglesby, S. Kephapoulos, D. Kotzias (Eds). pp 46-51. 2004.

Hruba, F., E. Fabianova, K. Koppova, J. Vandenberg. Childhood respiratory symptoms, hospital admissions and long-term exposure to airborne particulate matter. *J. Exposure Analysis and Environmental Epidemiology* 11(1): 33-40, 2001.

Vandenberg, J. Particulate matter: USEPA regulatory, monitoring and research programs. *Proceedings: National Conference on Transportation and the Environment for the 21st Century*. Transportation Research Board, National Research Council, Transportation Research Circular Number E-C028, April 2001.

Vandenberg, J. and J. Paisie. Workshop overview: fine particulate matter, air quality management, and research. WHO monograph, Institute of Environ. Epi., Singapore (2001).

Brauer, J., F. Hruba, E. Mihailikova, E. Fabianova, P. Miskovic, A. Plzikova, M. Lendacka, J. Vandenberg and A. Cullen. Personal exposure to particles in Banska Bystrica, Slovakia. *J. Exposure Analysis and Environmental Epidemiology* 10(5): 478-487, 2000.

van Bree, L. and J. Vandenberg. Risk assessment and risk management of ambient air PM. In: *Proceedings of the Third Colloquium on Particulate Air Pollution and Human Health*, Air Pollution Health Effects Laboratory, Univ. of California, Irvine, CA 1999.

Vandenberg, J. Scientific research for ozone and particulate matter. *Pace Environmental Law Review* 16(1): 53-61, 1998.

McDonald, A. and J. Vandenberg. Environmental standards for human health protection. In: *Pollution Risk Assessment and Management: A Structured Approach*, P. Douben (Ed), John Wiley & Sons, London, 1998.

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Dreher, K.L., and J.J. Vandenberg. US EPA Briefings and Pre-meeting Materials for the National Academy of Sciences, National Research Council Committee on Research Priorities for Airborne Particulate Matter. EPA/600/R-98/085, 1998.

Vandenberg, J.J., L. Grant, J. Bachmann, W. Wilson, E. Lee, N. Vogel, P. Liroy, M. Utell, and R. Burnett. U.S. Particulate Matter Health Research Program Workshop: Summary Report, EPA/600/R-98/007, 1998.

Vandenberg, J.J. Nonlinearities in concentration x time relationships: implications for risk assessors. *Comments Toxicology* 6(2):117-124, 1997

Vandenberg, J.J. Risk assessment and research: an essential link. *Toxicol. Lett.* 79:17-22, 1995.

Cote, I.L., B. Hassett-Sipple and J.J. Vandenberg. Health effects of hazardous air pollution. In: *Hazardous Air Pollution: the London Workshop*. Organization for Economic Cooperation and Development (OECD), 1995.

Vandenberg, J.J. Toxicology and environmental health risk assessment methodology. In: *Environmental Science for Lawyers*. North Carolina Bar Foundation Continuing Legal Education course 039ESL, 1995.

Vandenberg, J.J. Development and application of the benchmark dose approach by the U.S. Environmental Protection Agency. *Toxicol. Lett. Supp.* 1/74: 89 (1994)

Cote, I.L. and J.J. Vandenberg. Overview of health effects and risk assessment issues associated with air pollution. In: *The Vulnerable Brain and Environmental Risks, Volume 3: Toxins in Air and Water*, R.L. Isaacson and K.F. Jensen (eds), Plenum Press, NY, pp. 231-245, 1994.

Vandenberg, J.J. (Ed). *Hazardous Air Pollutants: Profiles of Noncancer Toxicity from Inhalation Exposures*. US Environmental Protection Agency, Office of Health Research, Research Triangle Park, NC. EPA/600/R-93/142, September 1993, 753 pp.

Vandenberg, J.J. and I.L. Cote. Research to improve health risk assessments: setting the stage for residual risk assessment of the hazardous air pollutants. *Proceedings: Air and Waste Management Association Annual Meeting*, Paper 93-RA-116A.04, June 1993.

Vandenberg, J.J. Health research to support risk assessment. In: *New Hazardous Air Pollutant Laws and Regulations*, Air and Waste Management Association, Pittsburgh, PA, April 21-24, 1992, pp 202-211.

Pease, W., J. Vandenberg, and K. Hooper. Comparing alternative approaches to establishing regulatory levels for reproductive toxicants: DBCP as a case study. *Environmental Health Perspectives* 91: 141-155, 1991.

Vandenberg, J.J., Fowle, J.R., and H. Zenick. EPA's Research to Improve Health Risk Assessments (RIHRA) Program: Overview and Water-Related Research. *Proceedings:*

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Water Research for the New Decade, American Water Works Association, Philadelphia, PA, June 23-27, 1991, pp 779-789.

Hassett-Sipple, B., Cote, I., and J. Vandenberg. Toxic air pollutants and noncancer health risks - United States. *Morbidity and Mortality Weekly Report* 40: 278-279. May 3 1991.

Jacobson, S.K., and J. Vandenberg. Reproductive ecology of the endangered golden toad (*Bufo perigenes*). *J. Herpetology* 25: 321-327, 1991.

Vandenberg, J.J., K. Hooper, T.L. Telles, S.M. Hoover and A. Kelter. The use of an evaluated toxicity data base in setting priorities for the assessment of reproductive toxicants. *Proceedings: Air and Waste Management Association Annual Meeting*, Paper 89-59.3, June 1989.

Vandenberg, J.J., A. Smith and K. Blanchard. Exposure and risk assessment of chromium electroplaters. *Proceedings: Air and Waste Management Association Annual Meeting*, Paper 89-161.5, June 1989.

Rehm, R., J. Vandenberg, M. Trutna and D. Painter. Estimation of maximum annual ambient concentrations of air toxics resulting from industrial facility emissions. *Proceedings: Air Pollution Control Association Annual Meeting*, June 1988.

Vandenberg, J.J., and K.R. Knoerr. Comparison of surrogate surface techniques for estimation of sulfate dry deposition. *Atmospheric Environment* 19: 627-635, 1985.

Vandenberg, J.J., and K.R. Knoerr. Comparison of surrogate surface techniques for estimation of sulfate dry deposition. *Proceedings: National Symposium on Recent Advances in Pollutant Monitoring of Ambient Air and Stationary Sources*. EPA-600/9-84-001. 1984.

Selected NCEA-RTP Major Division Products (2009-2018; final reports):

U.S. EPA. Integrated Science Assessment of Oxides of Nitrogen, Oxides of Sulfur, and Particulate Matter – Ecological Criteria (First Draft). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-16/372, 2017. (Second Draft 2018)

U.S. EPA. Integrated Science Assessment of Oxides of Sulfur – Health Criteria (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-17/451, 2017.

U.S. EPA. Integrated Science Assessment of Oxides of Nitrogen – Health Criteria (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-15/068F, 2016.

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U.S. EPA. IRIS Toxicological Review of Trimethylbenzenes, Washington, DC, EPA/635/R-16/161Fa, 2016

U.S. EPA. Integrated Science Assessment of Ozone and Related Photochemical Oxidants (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-10/076F, 2013.

U.S. EPA. Integrated Science Assessment for Lead (Third External Review Draft). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-10/075C, 2012.

U.S. EPA. Integrated Science Assessment for Carbon Monoxide (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-09/019F, 2010.

U.S. EPA. Integrated Science Assessment for Particulate Matter (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-08/139F, 2009.

IRIS Toxicological Review of Acrylamide (2010) EPA/635/R-07/009F. 459 pp.

IRIS Toxicological Review of Ethylene Glycol Monobutyl Ether (EGBE) (2010) EPA/635/R-08/006F. 206 pp

IRIS Toxicological Review of Chloroprene (2010) EPA/635/R-09/010F. 303 pp.

IRIS Toxicological Review of 1,4-dioxane (oral) (2010) EPA/635/R-09/005F. 319 pp

IRIS Toxicological Review of Hexachloroethane (2011) EPA/635/R-09/0007F. 200 pp

Status Report: Advances in Inhalation Dosimetry for Gases with Lower Respiratory Tract and Systemic Effects. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-11/067, 2011.

Advances in Inhalation Dosimetry of Gases and Vapors with Portal of Entry Effects in the Upper Respiratory Tract (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-09/072, 2009.

Nanomaterial Case Studies: Nanoscale Titanium Dioxide in Water Treatment and in Topical Sunscreen (Final). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-09/057F, 2010.

Development and implementation of the Health and Environmental Research Online (HERO) database <http://hero.epa.gov/>

SELECTED COMMITTEE ACTIVITIES

Secretaries' Science Advisory Board. North Carolina Department of Environmental Quality and Department of Health and Human Services. Appointed by Governor Roy Cooper 2017 -

National Academy of Sciences, Emerging Science for Environmental Health Decisions, advisory committee member, 2016-

National Institute of Occupational Health and Safety, Risk Assessment Program external review panel, Cincinnati OH. 2011

Center for Environmental Medicine, Asthma and Lung Biology external review panel, University of North Carolina, Chapel Hill, NC 2011

Bisphenol A Subcommittee of the Science Board to the Food and Drug Administration, 2008

Scientific Advisory Committee, Johns Hopkins Particle Matter Research Center, Baltimore, MD 2005-2008

Councilor, Society for Risk Analysis, (national elected position), 1999-2002

External Scientific Advisory Committee, National Environmental Respiratory Center, Lovelace Respiratory Research Institute, Albuquerque, NM, 1998- 2005

National Institute of Environmental Health Sciences, International Program on Chemical Safety, 1995.

Aerosol Research Inhalation Epidemiological Study (ARIES) Scientific Advisory Committee, Electric Power Research Institute, Palo Alto, CA, 2000-2008

Scientific Advisory Panel, Mickey Leland National Urban Air Toxics Research Center, Houston, TX, 1997-2001

Advisory Committee, Harvard Center for Risk Analysis, Boston, MA 1993-1997; 2001

Scientific Advisory Committee, Southern California Particle Center and Supersite, Los Angeles, CA, 2000-2005

EPA Office of Research and Development Awards Committee representative, 1997-2000.

Chair, Grants Management Committee, Society for Risk Analysis, 2000.

Co-chair, Internationalization Committee, Society for Risk Analysis, 2000.

John J. Vandenberg

Representative of the National Health and Environmental Effects Research Laboratory to the EPA Research Triangle Park Diversity committee, 1998-1999.

Chair, Particulate matter grants selection, Science to Achieve Results program grants, National Center for Environmental Research, Research Triangle Park, NC 1996, 1997, 1998, 1999, 2000.

Symposium Advisory Committee, Indicators in Health and Ecological Risk Assessment, National Health and Environmental Effects Research Laboratory, 2000.

Chair, Particulate Matter Centers Liaison Committee, Office of Research and Development, 2000.

International Steering Committee, NERAM, Ottawa, Canada, 2000 – 2005.

Organizer, Particulate Matter Working Group, Air Quality Research Subcommittee, Committee on Environment and Natural Resources, Office of Science and Technology Policy, White House, Washington, DC, 1999 - 2002

Program Advisory Committee, 3rd Colloquium on Particulate Air Pollution and Human Health, 1999.

Health Effects Institute Advisory Committee, Fourteenth HEI Annual Conference, 1998.

Councilor, Research Triangle Chapter of the Society for Risk Analysis (chapter elected position), 1996.

Organizer and Chair, Emerging biologically-based dose-response models for both carcinogenic and noncarcinogenic endpoints symposium, Society for Risk Analysis Annual Meeting, December, 1996.

Chair, Benchmark Dose Working Group, Risk Assessment Forum, EPA, 1993-1994.

President, New Hope chapter of National Audubon Society (elected position), 1992.

SELECTED PRESENTATIONS

Congressional and Selected EPA Briefings

Testimony to the House Science, Space and Technology Subcommittee on Environment Hearing – Background Check: Achievability of New Ozone Standards; June 12, 2013

Testimony to Senate Environment and Public Works Full Committee Hearing entitled “The Latest Science on Lead’s Impacts on Children’s Development and Public Health; July 12, 2012

John J. Vandenberg

Numerous briefings to the EPA Administrator, Assistant Administrators, Office of Management and Budget, National Research Council, EPA Science Advisory Committee, EPA Board of Scientific Counselors.

Briefings to the Administrator, EPA, on enhancements to the Integrated Risk Information System (2013)

Briefings to Administrator, EPA, on Integrated Science Assessments for Nitrogen Oxides, Sulfur Oxides, Particulate Matter, Ozone and Carbon Monoxide (2008-2012)

Briefings to Assistant Administrator, Office of Research and Development, on Integrated Science Assessments or Air Quality Criteria Documents for Ozone, Nitrogen Oxides, Sulfur Oxides, Particulate Matter, and Carbon Monoxide, numerous, (2004-2018)

Briefings to Assistant Administrator, Office of Research and Development, on priority topics including various IRIS assessments such as PCBs, arsenic, trimethylbenzenes, IRIS enhancements, and other activities such as comprehensive environmental assessment of nano-materials (2004-2013)

Briefing to Administrator, EPA, on ozone research, Washington, DC 2007.

Testimony preparation for EPA Appointee testimony to Senate Environment and Public Works Committee on particulate matter health effects, 2005.

Briefings to Appropriations Committee Staff on particulate matter research, U.S. House of Representatives, Washington, DC, 1998, 2000, 2004.

Briefings to Appropriations Committee Staff on particulate matter research, U.S. Senate, Washington, DC, 1998, 2000, 2004

Briefing to Senate Environment and Public Works Committee Staff on particulate matter research program, March 2000, 2004.

Host and briefings on particulate matter research, visit to EPA facilities in Research Triangle Park by Senate Environment and Public Works Committee Staff, December 1998.

Briefing to Administrator, EPA, on particulate matter research, or ozone integrated science assessment, Washington, DC 1998, 2005, 2010, 2011, 2012.

Briefings to Assistant Administrator for Air and Radiation on particulate matter research program, Washington, DC 1999, 2000, 2001, 2005

Briefings to Assistant Administrator for Research and Development on particulate matter research program, Washington, DC 1998, 1999, 2000, 2001, 2005, 2010

Domestic Presentations (selected)

Numerous presentations to:

EPA Science Advisory Board, 1996, 1997, 1998, 1999, 2000, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018
(including Clean Air Scientific Advisory Committee)
National Research Council Committee on Research Priorities for Airborne Particulate Matter, numerous times 1998, 1999, 2000
National Research Council Board of Environmental Science and Toxicology, 2014, 2016
EPA Board of Scientific Counselors, 1998, 2000, 2001, 2005, 2007, 2008, 2015, 2016, 2017

Vandenberg, J.J. Airborne Particulate Matter: What is it and Why do we Care? Triangle Air Awareness Luncheon Keynote Speaker. Research Triangle Park, NC, October, 2012.

Vandenberg, J.J. Something's in the Kansas Air: A primer on particulate matter and ozone. EPA Region 7, Kansas City, May 2011

Hagan, N., N. Robins, H. Hsu-Kim, S. Halabi, M. Morris, G. Woodall, D. Richter, and J. Vandenberg. Estimation of historical Exposure to Elemental Mercury Vapor and Present-Day Exposure to Mercury and Other Metals in Huancavelica, Peru, and Potosí, Bolivia. Oral presentation at the International Conference on Mercury as a Global Pollutant, Halifax, Nova Scotia, Canada, July 2011.

Hagan, N., N. Robins, H. Hsu-Kim, M. Morris, G. Woodall, S. Halabi, A. Bacon, D. Richter, and J. Vandenberg. Legacies of Mercury Production and Use in the Andes: The Cases of Huancavelica and Potosi. Poster presentation at the Society for Risk Analysis Annual Meeting, Salt Lake City, UT, December 2010.

Hagan, N., N. Robins, M. Morris, G. Woodall, D. Richter, and J. Vandenberg. A Lasting Legacy: Using AERMOD to Estimate Historical Atmospheric Concentrations of Mercury from Silver Mining in Potosi, Bolivia. Poster presentation at the EPA-RTP Networking and Leadership Training Organization Annual Poster Competition, Research Triangle Park, NC, May 2010.

Hagan, N., N. Robins, M. Morris, G. Woodall, D. Richter, and J. Vandenberg. A Lasting Legacy: Using AERMOD to Estimate Historical Atmospheric Concentrations of Mercury from Silver Mining in Potosi, Bolivia. Poster presentation at the American Association for Aerosol Research Specialty Conference, San Diego, CA, March 2010.

Vandenberg, J.J. Emerging issues in health risk assessment. Toxicology and Risk Assessment Conference, Dayton, OH, 2009.

John J. Vandenberg

Vandenberg, J.J. Uncertainties in the health risk assessment of formaldehyde. Environmental Mutagen Society annual meeting, San Juan, Puerto Rico, 2008.

Vandenberg, J.J. Future directions in toxicology and risk assessment, Risk Assessment Teleconference for Superfund (EPA and States), 2008

Vandenberg, J.J. Advances in risk assessment: Implications of U.S. approaches on REACH and implications of REACH on U.S. approaches, San Antonio, TX, 2007

Vandenberg, J.J. National Center for Environmental Assessment Activities. Regional Science Liaison Workshop, Kansas City, 2006

Vandenberg, J.J. Challenges facing EPA in probabilistic health assessments. Risk Assessment Forum Colloquium on Probabilistic Risk Assessment. 2004

Vandenberg, J.J. Ethics and Human Studies session, Chair, EPA Science Forum, Washington, DC, 2004

Vandenberg, J.J. Particulate Matter: Health Matters. Invited presentation to the EPA Science Forum, Washington, DC, May 2, 2002

Vandenberg, J.J. Particulate Matter Research: The Regulatory Context. Invited presentation to the NHEERL Particulate Matter Research Open House: Addressing Critical Human Health Issues. National Health and Environmental Effects Research Laboratory, Research Triangle Park, NC, November 2000.

Vandenberg, J.J. Particulate Matter: Regulatory Update and Research at EPA. Invited presentation to the Real World Conference, Department of Defense, Atlanta, GA, June 2000.

Vandenberg, J.J. Air Research Priorities. Invited presentation to the California Air Resources Board workshop on research prioritization, Sacramento, CA, July 1999.

Vandenberg, J.J. EPA Research on Particulate Matter and Risk Assessment. Invited presentation to the Air Pollution Epidemiology Seminar at the University of North Carolina School of Public Health, Chapel Hill, NC, April 1999.

Vandenberg, J.J. Health Risk Assessment: New Developments. Invited presentation to the Environmental Mutagen Society, Washington, DC, March 1999.

Vandenberg, J.J. Keynote speaker, invited presentation to the Air Quality Monitoring and Control: Partners in Environmental Technology Technical Symposium and Workshop, SERDP, December 1998.

John J. Vandenberg

Vandenberg, J.J. Scientific Research for Ozone and Particulate Matter Standards. Invited presentation to Science and Public Policy: The New Ambient Air Quality Standards Under the Clean Air Act Symposium, Pace University, February 1998.

Vandenberg, J.J. PM Health Effects and Exposure Research: Overview of the State of the Science and Future Research. Invited presentation to the Planning and Coordination Workshop for Particulate Matter and Tropospheric Ozone Air Quality Research, NARSTO, Washington, DC, September 1997.

Vandenberg, J.J. Evaluation of potential noncancer risks from short-term industrial emissions of hazardous air pollutants. Society for Risk Analysis Annual Meeting, New Orleans, LA, December 1996.

Vandenberg, J.J. Risk Assessment Reform in Practice. Invited panel participation to Risk Policy and its Reform Symposium, Duke University, Durham, NC, March 1996. Biological Models, and Benchmark Dose. Invited presentations to Center for Food Safety and Applied Nutrition's Risk Assessment Go-Away. Annapolis, MD, July 1995.

Vandenberg, J.J. Toxicology and Environmental Health Risk Assessment Methodology. Invited presentation to a North Carolina Bar Association continuing education course, 1995.

Vandenberg, J.J. Mechanism Based Toxicology in Risk Assessment. Invited presentation to the National Institute of Environmental Health Sciences seminar series, 1995.

Vandenberg, J.J. Establishing the Benchmark Dose Methodology. Invited presentation to EPA Office of Water Health Risk Assessment Stakeholders Meeting - Cancer and Noncancer Risk Assessment. Washington, DC, April, 1995.

Vandenberg, J.J. Research to Improve Health Risk Assessment. Invited presentation to the EPA/State and Territorial Air Pollution Administrators/Association of Local Air Pollution Control Officials Risk Assessment Workshop, Southern Pines, NC, April 1995.

Vandenberg, J.J. Health Risk Assessment: What is it, and Why is it such a Big Deal? Invited presentation to Civil Engineering Seminar, North Carolina State University, Raleigh, NC, February 1995.

Vandenberg, J.J. Science and Judgment in Risk Assessment: NRC Findings. Invited presentation to the Research Triangle Chapter, Society for Risk Analysis, Research Triangle Park, NC, March, 1994.

Vandenberg, J.J. EPA's Research to Improve Health Risk Assessments (RIHRA) Program. Presentation to the 10th Annual Conference of the Society of Toxicology. New Orleans, LA, March 1993.

John J. Vandenberg

Vandenberg, J.J. Health Research to Support Risk Assessment. Presentation to the Air and Waste Management Association International Specialty Conference: New Hazardous Air Pollutant Laws and Regulations, King of Prussia, PA, April 1992.

Vandenberg, J.J. Implementation of the Clean Air Act Amendments of 1990: Health Research Support of Risk Assessment. American Public Health Association Annual Meeting, Atlanta, GA, November 1991.

International Presentations (and Representation)

Numerous scientific presentations and risk assessment training sessions in Egypt, Dubai, Singapore, Saudi Arabia, Switzerland, Germany, Italy, Peru, and other countries.

A framework for air quality management. Saudi International Environmental Technology Conference 2012, King Abdulaziz City for Science and Technology (KACST), Kingdom of Saudi Arabia (KSA), Riyadh, 2012.

Risk Assessment as a Critical Tool for Everyday Challenges. Toxicology & Forensic Medicine Department, Faculty of Veterinary Medicine, Cairo, 2012.

Human health risk assessment activities at USEPA, Menoufiya University, Sadat City, Egypt, and to Benha University, Benha, Egypt, 2008.

Water infrastructure protection. Conference on Protecting the Middle East Food Supply from Intentional Contamination, Cairo, Egypt, 2008.

International Agency for Research on Cancer, World Health Organization, expert panel on air pollution assessment priorities. Lyon, France, December 2004.

World Health Organization, Clean Air for Europe expert review panel. Bonn, Germany, January 2003

Particulate Matter Research and Regulatory Activities at USEPA. Invited presentation to the Clean Air Workshop, Lima, Peru, July 2001.

Particulate Matter: U.S. Regulatory Context and Research Directions. Invited presentation at the International Seminar on the Health Effects of Ambient Pollutants, Santiago, Chile, June 2000.

U.S. EPA Representative (only representative from EPA), Epidemiological Evidence in a Health Risk Assessment and Management Framework, invited participation in a World Health Organization workshop to develop guidelines for using epidemiological evidence in health risk assessment, Pisa, Italy, May 1999.

Health Effects of Particulate Matter. Invited presentations to the Singapore Institute of Environmental Epidemiology/Association of South East Asian Nations PM Regional Workshop, Singapore, February 1999.

John J. Vandenberg

Briefing on Slovak-U.S. Cooperative Agreement, invited presentation by the EPA Office of International Activities to brief USAID, Slovak Environmental Agency and Slovak Institute of Public Health officials on cooperative agreement accomplishments, Bratislava, Slovakia, February 1999.

U.S. Representative (only representative from U.S.), invited participant to a European Union/European Science Foundation/World Health Organization meeting on long-range research priorities, Munich, Germany, October 1998.

U.S. Representative (only representative from U.S. agency), invited participant to a European Union meeting on air pollution research, Athens, Greece, March 1998.

Particulate Matter in the United States: New Standards, New Research Opportunities. International Society for Environmental Epidemiology Symposium, Smolenice, Slovakia, September 1997.

U.S. Perspective on Endocrine Disruption. Session Co-Chair on Persistent Organic Pollutants and invited presentation to the 5th US-Dutch Symposium Air Pollution in the 21st Century: Priority Issues and Policy Trends. Noordwijk, The Netherlands, April 1997.

U.S. Representative (only representative from U.S.), invited external reviewer for the Slovak Institute of Public Health/PHARE project Health Effects of Environmental Pollution. Bojnica Castle, Slovakia, 1995.

Development and Application of the Benchmark Dose Approach by the U.S. EPA. Invited presentation to EUROTOX 94, Basel, Switzerland, August 1994.

PEER REVIEWER and CONSULTATIONS (selected)

Expert Consultation on Particulate Matter. IRIDIUM project of Netherlands National Institute for Public Health and the Environment (RIVM), Utrecht University (IRAS), VU University Amsterdam (IVM) and Netherlands Environmental Assessment Agency (PBL). 2013.

National Institute of Occupational Health and Safety, Risk Assessment Program, Cincinnati OH. 2011

Center for Environmental Medicine, Asthma and Lung Biology, Chapel Hill, NC 2011

Bisphenol-A science review panel, Food and Drug Administration, 2008

Lovelace Respiratory Research Institute peer panel (for Dept of Energy), 1997.

National Institute of Environmental Health Sciences, International Program on Chemical Safety, 1995.

John J. Vandenberg

Risk Analysis - ad hoc

Journal of Toxicology and Environmental Health. 1992 – present

Other journals – ad hoc

STUDENT ADVISING AND MENTORING

Academic major advisor, Ph.D. program, The Graduate School, Duke University, Durham, NC:

Margaret Menache (1997)

Academic advisor, Masters of Environmental Management, Nicholas School of the Environment, Duke University, Durham, NC:

Tanya Girouard (1998)	Julie Gough (1998)	Michael Peterson (1998)
Melissa Melvin (1998)	Jennifer Crawford (1997)	Elizabeth Kormeier (1997)
David Stevenson (1997)	Suzanne Zechiel (1997)	S. Charles Wheat (1997)
Brian Stone, Jr. (1996)	N. Peter Jensen (1996)	Sharon Sigethy (1995)
Richard Sprott (1994)	Sarah Mazur (2005)	Alyssa Quarforth (2006)
Kristen Wiedner (2007)	Nicole Hagan (2008)	Ramsey Ramadan (2011)
Jiaqi Li (2017)		

Academic committee member:

Robert Polimeno, M.S. Civil and Environmental Engineering, Duke University (1993)

Kelly Rimer, M.S. School of Public Health, University of North Carolina, Chapel Hill, NC (1993)

Lindsay Wichers, School of Public Health, University of North Carolina, Chapel Hill, NC (2003)

Alan Rush, PhD. Environmental Science and Policy, George Mason University, DC (2005)

Andie Wyatt, Masters of Arts, Duke University (2008)

Nicole Hagan, PhD, School of Public Health, University of North Carolina, Chapel Hill, NC (2011-2015)

David Roche, Masters of Arts, Duke University (2013)

Abigail McEwen (2015)

Mentor:

Joelvanny Agostini-Rodriguez, EPA Presidential Management Intern (2001)

Carla Sanwald, University of North Carolina, EPA Volunteer (1996)

Virginia Wright, minority summer student, HBCU/MI Consortium EPA/ORD Summer Intern (1995)

Sharon Sigethy, EPA Internship Program (1995)